



U. S. Fish & Wildlife Service

Nevada Fish and Wildlife Office

Conserving the biological diversity of the Great Basin, Eastern Sierra, and Mojave Desert

Wildfires Impact Native Fish



Willow Fire damage in the Nelson Creek drainage (left and below) Photos: BLM

When most people think of the destruction caused by a wildfire to plants and animals, they typically think of terrestrial species. However, wildfires can have devastating impacts to aquatic species as well.

In 2012, the Willow Fire burned nearly 43,000 acres of public and private lands in the Rock Creek watershed in northeastern Nevada, and the Holloway Fire burned over 461,000 acres (215,600 acres in northern Nevada and 245,400 acres in southern Oregon). These large wildfires have severely impacted the threatened Lahontan cutthroat trout (LCT) as well as other aquatic species in 92 miles of streams.

Fire is not uncommon in the Great Basin, however, the size and frequency of fires has increased in recent times. For example, since 2005, the entire Rock Creek watershed (581, 575 acres) has burned, many areas burning multiple times.

The Willow Fire occurred in four of the six LCT (*Oncorhynchus clarkii henshawi*) occupied streams within



the Rock Creek watershed. The fire burned the entire Lewis and Nelson Creek watersheds which had approximately 14 miles of connected LCT habitat. Fire severity around Nelson Creek was so high that fish mortalities were observed in the creek.

The Holloway Fire unleashed its fury in the McDermitt Creek and the Willow-Whitehorse watersheds. McDermitt Creek is part of a large ongoing restoration effort to reconnect over 50 miles of LCT habitat. The Willow-Whitehorse watershed has 74 miles of occupied LCT habitat and hosts the only intact LCT population in Oregon.

The Holloway Fire burned the headwaters of McDermitt Creek including Sage, Line Canyon, and Corral Canyon Creeks which are all LCT occupied waters. The entire Willow-Whitehorse watershed was burned by high severity fire, and again, fish mortalities were observed.

Although the flames of these fires have been extinguished, impacts to the aquatic species will continue into the future. Emergency stabilization and rehabilitation projects are being implemented on both private and public lands to minimize sediment inputs to burned stream zones. However, sediment in runoff is expected to further impact water quality continuing to take a toll on LCT and other aquatic species during high precipitation events until vegetation has reestablished preventing erosion.